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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/635,131	08/06/2003	Chandran B. Santanam	GP-302660	8417
7590	12/13/2004		EXAMINER	
LESLIE C. HODGES General Motors Corporation Mail Code 482-C23-B21 P.O. Box 300 Detroit, MI 48265-3000			MOULIS, THOMAS N	
			ART UNIT	PAPER NUMBER
			3747	
			DATE MAILED: 12/13/2004	

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.	Applicant(s)	
	10/635,131	SANTANAM ET AL.	
	Examiner	Art Unit	
	Thomas N Moulis	3747	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-21 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 8/6/03 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____.
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 12 is unclear and not understood, nor shown in the drawings.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5, 11, 13-15, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Matulaitis. The reference discloses a cooling system for a liquid cooled internal combustion engine having a cylinder block and a cylinder head including the claimed elements of a second coolant inlet (56) connected to the cooling jacket of the cylinder head and a diverter valve (60) for controlling

coolant flow between the engine block and the cylinder head dependant on temperature. Note also the customary thermostically controlled valve for bypassing the radiator.

3. Claims 1-5, 11, 13-15, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Bierling. The reference discloses a cooling system for a liquid cooled internal combustion engine having a cylinder block and a cylinder head including the claimed elements of a second coolant inlet connected to the cooling jacket of the cylinder head and a diverter valve (17) for controlling coolant flow between the engine block and the cylinder head dependant on temperature. The system regulates the temperature of the block.

4. Claim 19 is rejected under 35 U.S.C. 102(b) as being anticipated by Ueda ('967).

The reference discloses a method for cooling an engine after shutdown, including the step of reversing the airflow of the fan. See column 1, lines 42-49.

5. Claims 19- 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Aihara et al ('862)

The reference discloses a method for cooling an engine after shutdown, including the step of reversing the airflow of the fan and continuing coolant flow until reaching a predetermined temperature.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 6-10, 16, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bierling in view of Aihara et al. Bierling discloses a diverter valve system for controlling engine block temperature as described above. Not shown is an electrically driven fan or water pump. However, Aihara et al teach using electric fan and water pump to more effectively control temperature within the system. The electric devices are controlled using detected temperature. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the engine cooling system of Bierling by providing temperature controlled electric fan and water pump as taught by Aihara et al. because these devices are well known since Aihara et al teach these advantages of cooler engine components.

8.

Conclusion

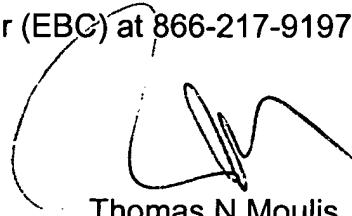
9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See the prior art showing diverter valve arrangements

within internal combustion engine cooling systems. Also see the art showing electric fans, electric water pumps and reversible fans upon engine shutdown.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas N Moulis whose telephone number is 703 308-2618. The examiner can normally be reached on M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Yuen can be reached on 703 308-1946. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Thomas N Moulis
Primary Examiner
Art Unit 3747

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